



Partner Reported Opportunities (PROs)  
For Reducing Methane Emissions

Compressors/Engines ☒  
Dehydrators ☐  
Pipelines ☐  
Pneumatics/Controls ☐  
Tanks ☐  
Valves ☐  
Wells ☐  
Other ☐

# Lower Purge Pressure for Shutdown

## Applicable sector(s):

☐ Production ☒ Processing ☒ Transmission and Distribution

Partners reporting this PRO: Enron Gas Pipeline Group

Other related PROs: Redesign Blowdown Systems and Alter ESD Practices; Inject Blowdown Gas into Low Pressure Mains

## Technology/Practice Overview

### Description

When individual compressors in a transmission compressor station are shutdown for maintenance or operational standby, the compressor and associated piping are normally depressured. The methane-rich gas is usually vented into the atmosphere through a blowdown vent line.

This partner reported lowering the purge gas pressure by venting some of the high-pressure blowdown gas to the fuel gas system. By recovering a partial volume for fuel, less methane is vented into the atmosphere via the blow down stack. This results in lower methane emissions and generates savings by using the blowdown gas for fuel to run other compressors at the station.

### Principal Benefits

Reducing methane emissions was:

☒ The primary benefit of the project ☐ An associated benefit of the project

### Operating Requirements

Pipes and valves may have to be installed to bleed gas from the compressor manifolds to the fuel gas line.

### Applicability

This applies to any compressor stations which have some continuous fuel gas usage when compressors are shut down.

## Methane Savings

500 Mcf/yr

## Costs

Capital Costs (including installation)

☐ <\$1,000 ☒ \$1,000-\$10,000 ☐ >\$10,000

Operating and Maintenance Costs  
(Annual)

☒ <100 ☐ \$100-\$1,000 ☐ >\$1,000

Payback (Years)

☐ 0-1 ☐ 1-3 ☒ 3-10 ☐ >10

## Methane Emission Reductions

The methane emission reductions are estimated using the Lessons Learned study: "Reducing Emissions When Taking Compressors Off-Line." Compressors that are de-pressurized to the atmosphere vent about 15 Mcf of methane. Depressuring to a 60 psig fuel system would recover about 12 Mcf of this gas. A six-compressor station with a total 42 compressor shutdowns will save about 500 Mcf/year. One partner has reported a methane emission reduction of 1,994 Mcf/yr for 4 locations.

## Economic Analysis

### Basis for Costs and Savings

The methane savings of 500 Mcf/yr are based on a transmission compressor station with 6 compressors that are each shutdown 7 times a year.

### Discussion

The capital cost for piping and valves can range between \$900 and \$1,600 per compressor. Operating costs involved will be minimal to manually depressure the compressor to the fuel gas system before fully depressuring to the blowdown line. At a price of \$3/Mcf, methane savings of \$1500/yr per station will pay back the investment in a little over 3 years.